Overview user interactions model of E-Government

Dinar Mutiara Kusumo Nugraheni
Mathematics and Natural Science Faculty, Computer Science Major, Diponegoro University, Semarang

Abstract

This paper will give an overview of e-government user interactionst, which is lead to the ubiquitous-government. This research contributes to understanding the role of ICT and enhances social inclusion of developing countries.

Introduction

During the last decade there has been a "revolution" in Information and Communications Technologies (ICT). This "revolution" does not only change people's daily life but it also changes the nature of the interactions between governments and their citizens that create ubiquitous e-government.

This paper is to examine the digital gap that occurs especially in developing countries, with seeks which Information and Communication Technologies that widespread in society and can be used to engage e- government.

It is important to understand the population and social dynamics of the community in which services are to be provided in order to design the best means of providing those services. In addition this paper is also determining the different technologies and user skills that are needed for the development of e-government.

It also looks at the basic features, perspectives and issues already exposed by the use of e-government services in those developed and developing countries that have implemented such services. In order to understand which ubiquitous e-government technologies and skills are required for the model to be used effectively. This research contributes to understanding the role of ICT to enhance social inclusion of those in remote parts of developing countries and provides indicator of the feasibility of using a given model social interactions of e-government in a particular developing country.

Digital Divide

A widely accessible and affordable communications infrastructure is one of the critical success factors for the delivery of government services online. However, the world can be divided into the information rich and the information poor. Therefore, ICT access and e-Government must be closely linked. Many of the most successful e-Government initiatives include, or are launched in combination with measures that are designed to expand access to more of the community. In addition, the availability of e-Government services that can save citizens and businesses time and money will, in turn, tend to drive demand for ICT access, further boosting infrastructure development and driving down the cost of access.

The digital divide exists not only between countries and regions but also within a country's borders, most commonly between rich and poor, between men and women, and between urban and rural areas. Urban areas tend to receive a disproportionately large share of public and private ICT investment in relation to the rest of the country. Usually, urban areas have at least a basic communications infrastructure and therefore are able to take advantage of ICTs, while rural areas tend to lack the infrastructure. Often ICT service providers do not have an incentive to invest in rural areas. The digital divide may correlate not only with income but also with cultural attitudes towards technology. Given the centrality of ICTs to both education and economic opportunity, those without access to ICTs are likely to fall further behind in a process that becomes a sort of vicious

circle.

E-Government

The meaning of the term, e-government, is quite nebulous in that it means different things to different users. E-government is sometimes defined to included office automation and internal management and expert systems, as well as client-facing web sites and using ICT to promote efficient, convenient, and cost-effective government services. Such internal factors are seen as critical to the provision of greater public access to information and to make government more accessible to citizens (Heeks, 2006). Furthermore the OECD (2006) defines e-government as a tool to achieve better government services by using information and communication technologies

E-government relationships are categorized as government to citizen (G2C), government to employee (G2E), government to business (G2B) and government to government (G2G) (FedEE, 2005).

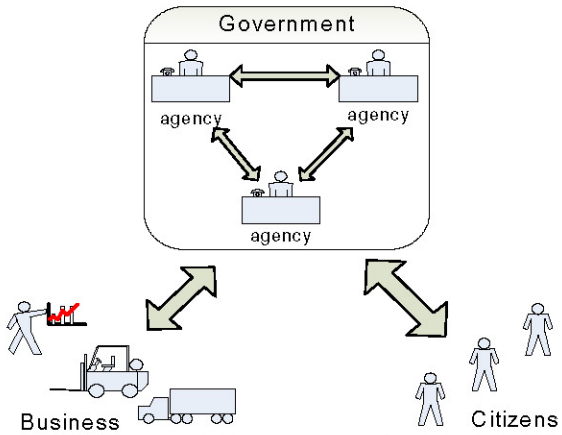


Figure 1: E-Government relationship (FedEE, 2005)

G2C - Government to Citizen

G2C are those activities in which the government provides on-line access to information and services to citizens. G2C applications enable citizens to access government services 24 hours, 7 day a week. The citizens can ask questions of government agencies and receive answers. In addition, government may disseminate information on the web; provide downloadable forms online; conduct training; help citizens find employment or provide tourism and recreation information.

G2B – Government to Business

In G2B, the government deals with businesses such as suppliers. The business society can use the Internet and other ICTs to access information or to contact the government. G2B includes two-way communications: interactions and transactions. B2G refers to businesses selling products and services to government.

G2G – Government to Government

G2G deals with those activities that take place between different government organizations /agencies. Many of these activities are aimed at improving the efficiency and effectiveness of overall government operations.

M –Government

The efficiency and effectiveness of e-government using current information technologies, especially in the web based Internet is effectively proven. However, with the growth of mobiles technologies, the concept of e-government is spreading into this field. The use of mobile technologies for e-government drives it in a new direction, causing it to become m-government

(mobile government). Eventually m-government may lead to even more intensive and wide spread government services than is possible using e-government forms, further evolving the relationship between government and citizens.

Definition of m-government

M-government is a strategy and an implementation that involves the utilization of mobile technology (Kushchu & Borucki, 2003). It includes services, applications and devices for improving and extending the benefits supplied by the use of e-government. A key task of government is supplying information to its citizens, and in many countries this is often not an easy job. Both e-government and m-government offer the potential for improving the delivery of information delivery to the public, but the mobile form would seem to offer greater benefits overall.

M-Government services

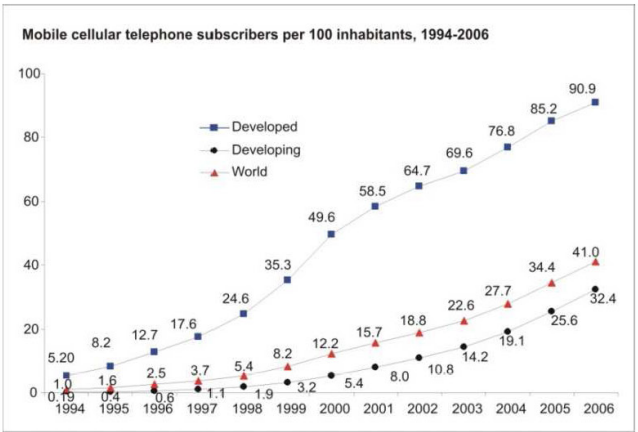
M-government services can be classified under these categories:

- Notifications
  Alert information from Government to Citizens (G2C)
  For example, during the recent SARS outbreak in Hong Kong, m-government services were employed to notify and advise the society about current developments, and to explain the government's plans for dealing with SARS. The Hong Kong government sent text messages to 6 million mobile phones during the period of the crisis (Amine, 2005).
- Transactions
  Mobile devices can also be used to make payments (e.g., taxes, fines) and other transactional services. For example, Norway has introduced a mobile tax-collecting system. Taxpayers who have no changes to make to the tax form they receive, can now simply send a text message with a code word, their identity number and a pin code instead of returning the form by mail. In Finland, tickets for Helsinki's public transport system can be ordered by sending a text message and the user is billed through his or her regular mobile phone bill.
- Discussion or increased public participation in government activity.
  Several experiments in the UK have explored voting via mobile phones to get the public more involved in political decision-making. This activity is concerned with improving the operations and communications between the government units (G2G). Another potential area is government-to-employee (G2E) information, where government employees can be notified or access information via a mobile device.

Services that m-government offers can be classified into communication, notification, transaction, and administration. The information that is delivered by mobile phone devices can be divided into two categories - general information or alerts, and important information or legally required communication.

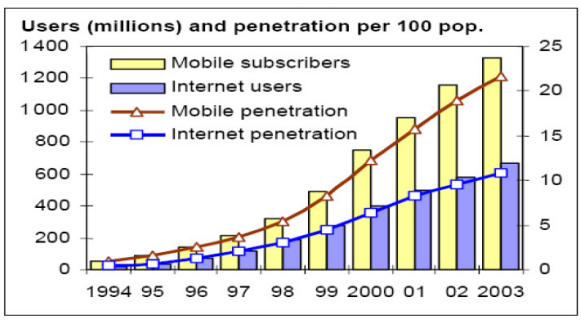
What is the reason for using m-government?

It is simply a fact that there are more people who can afford to cell phone or other similar wireless devices as compared to those who have access to PCs. This is supported by data from ITU (2006) that compares the rates of the usage in Information and Mobile Communication Technologies. Moreover this ITU data shows that the use of mobile phones is increasing rapidly, as can be seen in the figure below:



Source: ITU World Telecommunication Indicators Database
Figure 2: Mobile cellular telephone subscribers per 100 inhabitants, 1994-2006

In addition, since 2000, Internet penetration has grown at a slower rate than the usage of mobile phones. This can be seen from the following figure.



Source: ITU World Telecommunication Indicators Database.
Figure 3: Graph of Internet penetration and Mobile Penetration

Ubiquity Government

In just a few short years the concept of e-government interactions has dramatically challenged the traditional methods in which employees analyse documents and interact with data and the interactions between citizens and the government official. As more and more government's official and citizens become equipped with mobile devices, organizations enjoy a wide range of benefits including enhanced data collection and accuracy, improved data quality and flow, and more accountability for work processes and task assignments. In addition, new form factors such as the tablet PC and the 802.11b wireless networks are redefining government and citizens' traditional workspaces, allowing government's official into the front line to interact directly with customers.

The concept of e-government has been continuously evolving toward a new direction, according to the adoption of the new Information Technology (IT). Recently, many advance and developing countries has started actively accept the concept of ubiquitous government to its public services.

Ubiquitous government is based on the mobility in telecommunication and embed in computing. Ubiquitous services are available due to the advanced of mobile technology, digital multimedia broadcasting, and the convergence of wireless and wires networks. It can be concluded that the ubiquitous environment has features like disappearing networks, invisible computers and pervasive services. M-government richer the ubiquitos services in e- government.

It is a fact that there are more people who can afford to cell phone or other similar wireless devices as compared to those who have access to internet using fixed line. This is supported by data from ITU (2006) that compares the rates of the usage in fixed line and cellular mobile phones. Moreover this ITU data shows that the cellular mobile phone is increasing rapidly among 3 years, as can be seen in the figure below:

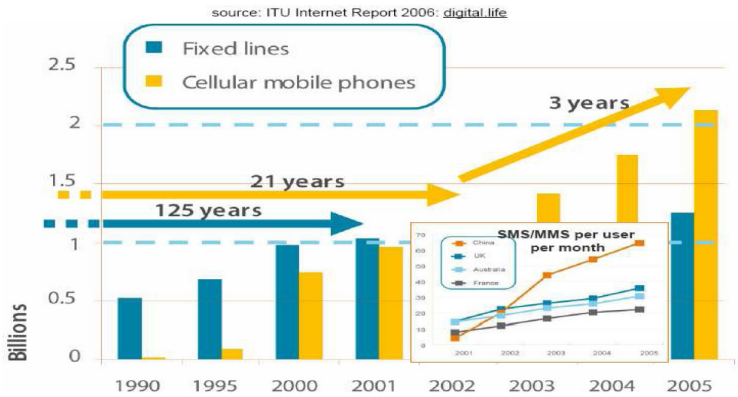


Figure 4: Graph of Usage Behaviour of fixed lines and Cellular mobile phones (ITU, 2006)

Recently there is a new trend in the society in the using of ICT, at advance and developing countries, is the use of social networking. It can be seen with the use of smart phone for internet and social networking. It is a data are more people who using social netwrok to acces the social network, for instances You Tube, My Space and FaceBook. This is supported by data from ITU (2006) that compares the rates of the usage in My Space, YouTube and FaceBook. Moreover this ITU data shows that those all social networking webs are increasing, as can be seen in the figure below:

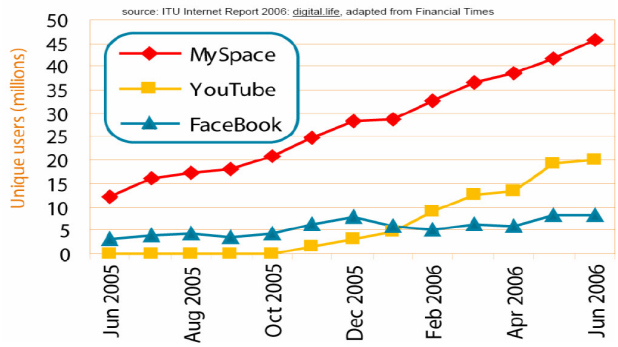


Figure 5: Graph of Usage Behaviours on social networking (ITU, 2006)

With the popularity of social networking, it can be an opportunity to government to use the social networking web as a bridge to encorage society participation in e-government.

E-government, M-government and U- government

E-govrnment, M-government and U- Government are different in their operational principles, service time, space and methods

Table 1 Evolution of Government

	E-Government	M-Government	U-Government
Tools	Using PC	Using Mobile Phone	Using Smart Phone
Media	Internet	Voice, SMS	Internet, SMS, MMS
Service time	24 hours, 7 days	24 hours, 7 days	24 hours a day, 365 days non stop
Service space	Customer'shome, office and kios k using internet	Customer location and physical palce where broad band accesible	Customer location and physical palce where broad band accessible
Service form	Open web	One time access	Open web and one time access

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Conclusions

This paper has presented an overview of user interactions of e-government. Several basic theories assosiated with e-government, m- government, and u-government have been discussed. E-government take an on line enviroment of an ICT that range from providing information and to engage the citizien and busines in multifaceted interactions. The proposed for undertanding the user of e-government is to seek the best ICT tools for e-government. The reason is to reduce the digital gap that occurs.

We found that the primary constraints to ICT are rarely technical, but rather relate to the knowledge, social and economic systems within which they are used. The usage behaviours of ICT is expected can be a guidance and an alternatif way to give an opportunity acces government information and engage people in developing country that have limitataions in infrastructure, financial, time and motivation. This research contributes to understanding the role of ICT to enhance social inclusion of those in remote parts of developing countries.

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